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Description

LOW VOLTAGE CIRCUIT FOR INTERFACING WITH HIGH VOLTAGE ANALOG SIGNALS

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TECHNICAL FIELD

The invention relates to integrated circuits fabricated using a "low voltage" (power supply $\leq 5\text{v}$) technology for interfacing with high voltage analog
10 signals, and in particular to circuits for accurately sensing and amplifying a low voltage differential signal that has been superimposed upon high DC voltage.

BACKGROUND ART

15 In low voltage integrated circuit (IC) design, information represented by a small differential signal is often superimposed upon a much larger voltage. It is often difficult to extract and amplify the differential signal and cancel the high voltage component. This is a
20 typical situation in DC-to-DC (switching or linear) voltage regulators, or battery chargers. This function is also widely used in multi-phase voltage regulation modules (VRM), integrated circuits (ICs) in which currents in different phases of the circuit must be
25 matched. In such circuits, current on the high side of input power supply has to be measured accurately, while at the same time, the low voltage circuitry must be protected from over-voltages.